SECTION IV. REQUIREMENTS SPECIFIC TO SEWAGE SLUDGE SURFACE DISPOSAL SITES WITHOUT A LINER AND LEACHATE COLLECTION SYSTEM

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants which may be present.

2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.

3. The permittee shall give 180 days prior notice to the Executive Director of any change planned in the sewage sludge disposal practice.

4. The permittee shall submit a written "closure and post closure plan" to the Executive Director 180 days prior to the date that the active sludge unit closes. The plan shall describe how the sludge unit will be closed and at a minimum, shall include:

a. A description of the system used to monitor continuously for methane gas in the air in any structures within the surface disposal site. The methane gas concentration shall not exceed 25% of the lower explosive limit for methane gas for three years after the sewage sludge unit closes; and,

b. A discussion of how public access to the surface disposal site will be restricted for three years after the last sludge unit in the surface disposal site closes.

5. Deed Recordation Notification

a. No person shall place sewage sludge on an active sludge unit prior to recording, in the deed records of the county or counties in which the disposal takes place, the following information:

i. a metes and bounds description of the portion(s) of the tract of land on which disposal of sewage sludge will take place;

ii. a detailed description of the sewage sludge which is to be disposed of;

iii. all pertinent information related to the permit to dispose of sewage sludge, including at least the permit number and issuing agency; and

iv. the name and permanent address of the person or persons operating the facility where more specific information on the waste can be secured.

b. Proof of recordation shall be provided to the executive director before the commission issues a permit.

B. Management Practices

1. Sewage sludge shall not be placed on an active sludge unit if it is likely to adversely affect a threatened or endangered species listed under the Endangered Species Act, §4, or its designated critical habitat.

2. An active surface disposal sludge unit shall not restrict the flow of the 100-year flood nor be located within the 100-year floodway.

3. When a surface disposal site is located in a seismic impact zone, each sludge unit in that site shall be designed to withstand the maximum recorded horizontal ground-level acceleration.

4. An active sewage sludge unit located within 60 meters of a fault that has displacement in Holocene time is prohibited from receipt of sewage sludge and must be closed.

5. An active sewage sludge unit located in an unstable area is prohibited from receipt of sewage sludge and must be closed.

6. An active sewage sludge unit located in a wetland, except as provided in a permit issued pursuant to section 402 of the CWA is prohibited from receipt of sewage sludge and must be closed.

7. Run-off from an active sludge unit shall be collected and disposed in accordance with discharge permit requirements and any other applicable requirements. The runoff collection system for an active sludge unit shall have the capacity to handle runoff from the 25 year storm.

8. When a cover is placed on an active surface disposal site, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25 percent of the lower explosive limit for methane gas during the period that the sewage sludge unit is active. The concentration of methane gas in air at the property line of the surface disposal site shall not exceed the lower explosive limit for methane gas during the period that the sewage sludge unit is active. Monitoring shall be continuous.

9. A food crop, feed crop, or a fiber crop shall not be grown on a surface disposal site.

10. Animals shall not be grazed on a surface disposal site.

11. Public access shall be restricted on the active surface disposal site and for three years after the site closes.

12. Placement of sewage sludge on an active sludge unit shall not contaminate an aquifer. This shall be demonstrated through one of the following:

a. Results of a groundwater monitoring program developed by a qualified groundwater scientist.

b. A certification by a qualified groundwater scientist may be used to demonstrate that sewage sludge placed on an active sewage unit does not contaminate an aquifer.

C. Testing Requirements

1. Sewage sludge shall be tested at the frequency shown below in D(4) for PCBs. Any sludge exceeding a concentration of 49 mg/Kg shall not be surface disposed.

2. Methane Gas Control Within a Structure On Site.

   When cover is placed on an active surface disposal site, the methane gas concentration in the air in any structure within the site shall not exceed 25% of the lower explosive limit (LEL) for methane gas during the period that the disposal site is active.

   When a final cover is placed on a sludge unit at closure, the concentration of methane gas in air in any structure within the surface disposal site shall not exceed 25% of the lower explosive limit for methane gas for three years after the sludge unit closes.

3. Methane Gas Control at Property Line.

   The concentration of methane gas in the air at the property line of the surface disposal site shall not exceed the LEL for methane gas during the period that the disposal site is active.

4. Sewage sludge shall be tested annually in accordance with the method specified in 40 CFR Part 261, Appendix II (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TNRCC. Sewage sludge failing this test shall be managed according to RCRA standards for the disposal of the hazardous waste. The permittee shall retest the sludge within 5 calendar days following notification of failure of the TCLP test. Sludge that fail initial TCLP test may be stored temporarily at the surface disposal site (monofill) until the result of the retest is known (a maximum of 30 days). The sludge that is temporarily stored at the surface disposal site shall be segregated from the other sludges. Following failure of any TCLP test, the disposal of sewage sludge in other than a certified hazardous waste disposal facility shall be prohibited until such time, as Permittee can demonstrate that the sewage sludge no longer exhibits the toxicity characteristic as demonstrated by the results of the TCLP test. A written report shall be provided to both the Industrial and Hazardous Waste Division of the Texas Natural Resource Conservation Commission and the Region Manager of the appropriate TNRCC field office within 7 days after failing the Toxicity Characteristic Leaching Procedure Test (TCLP). The report shall contain test results, certification that unauthorized disposal has stopped and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Industrial and Hazardous Waste Division (MC 126), Texas Natural Resource Conservation Commission, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the Austin Office, Water Quality Division, Wastewater Data Management Team (MC 148) and the Region Office (MC Region 6) by September 1 of each year.

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.

5. Metal Limits

a. Except as provided in 5.b., the concentration for each metal listed in sewage sludge placed on an active sludge unit that does not have a liner and leachate collection system shall be equal to or less than concentration for the metal in the Table (See Figure 10: 30 TAC §312.63 (a)).

TABLE - Metal CONCENTRATIONS

Metal	Concentration (milligrams per kilogram*)
Arsenic	73
Chromium	600
Nickel	420

* (Dry weight basis)

b. The concentration of each metal listed above in 5.a. in sewage sludge placed on an active sludge unit whose boundary is less than 150 meters from the property line of the surface disposal site shall not exceed the concentration determined using the following procedure.

i. The shortest actual distance from the active sludge unit boundary to the property line of the surface disposal site shall be determined.

ii. The concentration of each metal listed in the following table in the sewage sludge shall not exceed the concentration that corresponds to the actual distance as described above in paragraph 5.b.i. (See Figure 11: 30 TAC §312.63(b)(2)):

TABLE - Metal CONCENTRATIONS

Unit boundary to property line distance (meters)	Metal concentration* Arsenic (mg/kg)	Chromium (mg/kg)	Nickel (mg/kg)
0 to less than 25	30	200	210
25 to less than 50	34	220	240
50 to less than 75	39	260	270
75 to less than 100	46	300	320
100 to less than 125	53	360	390
125 to less than 150	62	450	420

* (Dry weight basis)

6. Pathogen Control

The Class A pathogen reduction requirements in 30 TAC §312.82(a) or the Class B pathogen reduction requirements in 30 TAC §312.82(b)(1)(A) and (b)(2) shall be met when sewage sludge is placed on an active sludge unit, unless the vector attraction reduction requirements in 30 TAC §312.83(b)(11) of this title (relating to Vector Attraction Reduction) is met.

7. Vector Attraction Control

One of the alternatives for vector attraction reduction in 30 TAC §312.83(b)(1)-(11) shall be met when sewage sludge is placed on an active sludge unit.

D. Monitoring Requirements

1. Methane Gas in covered structures on site (see C.2.) - Continuous

2. Methane Gas at property line (see C.3.) - Continuous

3. Toxicity Characteristic Leaching Procedure (TCLP) Test - Once/Year

4. PCBs - Once/Year

5. All metal constituents, pathogen density requirements and vector attraction reduction requirements shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC §312.66(a):

Amount of sewage sludge (*) dry tons per 365 day period			Frequency
0	≤ Sludge	< 290	Once/Year
290	≤ Sludge	< 1,500	Once/Quarter
1,500	≤ Sludge	< 15,000	Once/Two Months
15,000	≤ Sludge		Once/Month

(*) The amount of bulk sewage sludge applied to the land (dry weight basis).

6. Groundwater monitoring

A minimum of four groundwater monitoring wells shall be installed and maintained at the sludge disposal site. One groundwater monitoring well shall be located up-gradient and three shall be located down-gradient from the sludge disposal site. The groundwater monitoring wells shall be screened to monitor the first water bearing zone.

Prior to further sludge disposal the permittee shall initiate groundwater monitoring. Groundwater shall be analyzed according to the schedule below:

Parameter	Units	Sampling Frequency
Total Nitrogen	mg/l	quarterly

Nitrate Nitrogen	mg/l	quarterly
Ammonia Nitrogen	mg/l	quarterly
phosphorus	mg/l	quarterly
TDS	mg/l	quarterly
Electrical Conductivity	micromhos/cm	quarterly
Fecal Coliform	colonies/100ml	quarterly
water level	ft	quarterly
potassium	mg/l	2/Year
cadmium	mg/l	2/Year
lead	mg/l	2/Year
zinc	mg/l	2/Year
copper	mg/l	2/Year
nickel	mg/l	2/Year
pH	standard	2/Year
polychlorinated biphenyl	mg/l	2/Year

E. Recordkeeping Requirements

1. The person who prepares the sewage sludge shall develop the following information and shall retain the information for five years. The sludge documents will be retained at the same location as other TNRCC records and they shall be made readily available to the TNRCC upon request.

a. The concentration of each metal listed above in C.5.

b. The concentrations of the parameters in D.7.

c. The following certification statement found in 30 TAC §312.67.

> "I certify, under penalty of law, that the management practices in 30 TAC §312.64; pathogen requirements in 30 TAC §312.82 and the vector attraction reduction requirements in 30 TAC §312.83(b) have been met. This determination has been made under my direction and supervision in accordance with the system designed to assure that qualified personnel properly gather and evaluate the information used to determine that the (specific requirements for pathogen and vector attraction reduction) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

d. A description of how pathogen reduction requirements in 30 TAC §312.82(a) are met, or whether sewage sludge placed on a surface disposal site is covered with soil or other material at the end of each operating day.

e. A description of how the vector attraction reduction requirements in 30 TAC §312.82(a) are met.

f. Results of a groundwater monitoring program developed by a qualified ground-water scientist, or a certification by a qualified groundwater scientist may be used to demonstrate that sewage sludge placed on an active sewage sludge unit does not contaminate an aquifer.

2. The owner/operator of the surface disposal site shall develop the following information and shall retain that information for five years.

a. The concentration of each metal listed in C.5.a. in the sewage sludge when the metal

concentrations in C.5.b. are met.

b. The following certification statement: "I certify, under penalty of law, that the management practices in 30 TAC §312.64 and the vector attraction reduction requirements in (insert the citation to the specific requirements that are met from §312.83(b) of this title (relating to Vector Attraction Reduction)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices (and specific requirements for vector attraction reduction (when appropriate)) have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

c. A description of how the management practices in §312.64 (relating to Management Practices) are met.

d. A description of how one of the vector attraction reduction requirements in §312.83 (relating to Vector Attraction Reduction) are met when required.

F. Reporting Requirements

The permittee shall report to the Austin Office, Water Quality Division, Wastewater Permits Section (MC 148) and the Region Office by September 1 of each year the following:

1. Amount of sludge disposal dry weight (tons) at the surface disposal site (monofill).

2. The total amount of sludge disposed during a 365 day period.

3. Owner of disposal site.

4. Dates of disposal.

5. Toxicity Characteristic Leaching Procedure Test: Pass/Fail

6. PCB concentration in sludge in mg/Kg.

7. The concentration (mg/Kg) in the sludge of each pollutant listed in C.5.a. as well as the applicable pollutant concentration criteria listed in C.5.B.

8. Distance between the property line and the surface disposal site.

9. Certification statement required in E.1.d. or E.2.b. above as appropriate to the permittee's sludge disposal activities.

10. Narrative description explaining how the management practices in 30 TAC Section 312.64 are met.
11. Identity of hauler(s) and TNRCC transporter number.

12. Level of pathogen reduction achieved (Class A or Class B).

13. List alternative for pathogen reduction.

14. List the vector attraction alternative used.

The above records shall be maintained on a monthly basis and shall be made available to the Texas Natural Resource Conservation Commission upon request.